Native Landscaping

In a Nutshell

Native landscaping is the intentional growing of indigenous plants in their native habitats. As time goes on, plants evolve and adapt to the geography, climate, and hydrology of a region. When non-native plants, also known as invasive plants or exotic species, are introduced to the region, they tend to take over the area and eliminate the native plants. Using native plants in your landscaping eliminates the need for fertilizers and decreases the need for pesticides. Native landscaping is better for the environment and is more cost efficient than exotic species.

The “How To”

Overview of Native Plants

Native plants are defined as those species that evolved naturally to live in a certain region. Native species are the plants that lived in Missouri and Illinois before explorers settled the area. Many explorers introduced weeds to the region by accident, but other species were intentionally introduced and cultivated for use as medicine, spices, herbs, and dyes.

Missouri and Illinois’s natural plant communities offer a diversity of native plants to gardeners. For thousands of years, they have been adapting to life in prairies, wetlands, river-bottom forests, glades, and upland savannas. They have evolved with the extremes of our climate, a wide array of pathogens, and a variety of soil and moisture types, creating a palette of durable and showy plants for landscape gardening. Plants such as yellow wild indigo (*Baptisia sphaerocarpa*), native to the tallgrass prairie, and whitetinged oak sedge (*Carex albicans*

), which grows in dry woodlands, are easy-to-grow beauties being showcased in botanical garden displays, Metropolitan St. Louis Sewer District rain gardens, and homeowners' flower beds. Gardeners who use Missouri native plants have more success than those who use plants from other regions of the United States.

According to the Environmental Protection Agency, there are seven reasons why you should use native plants in your landscape.

1. Native plants do not require fertilizers.
2. Native plants require fewer pesticides than other options.
3. Native plants require less water than other options.
4. Native plants help reduce air pollution.
5. Native plants provide food and shelter for wildlife.
6. Native plants promote biodiversity and stewardship of our natural heritage.
7. Native plants save money.

In addition to these seven benefits, another benefit to native landscapes is that they allow rainwater to soak into the soil more effectively than turf. The root structures in turf grass are very shallow and do not hold much water. Native plants, on the other hand, offer deep root systems that have the capacity to hold more water, which reduces runoff.

Creating Your Native Landscape

Implementing native landscaping into your private yard can be as simple as planting a few native plants in your backyard to as elaborate as replacing all of the turf in your yard with native plants. Using native plants in any part of your yard will reduce maintenance and watering requirements. It is recommended, however, that native plants should be placed in groupings with other native plants. Layering different plants, clustering like species, and planting diverse species are all potential themes to determining how your native landscape looks. Grow Native! Offers easy landscape plans for native gardens such as rain gardens, butterfly gardens, songbird gardens, and more.

Most of the steps listed below can also be applied to individuals who wish to creative a native landscape on their own land. The steps are not necessarily exhaustive but can serve as a framework for a native landscaping project.

- Organize - Subdivision may choose to establish a committee or chairperson charged with handling the communication and business related to the project
- Evaluate the Site - Create a current map of proposed location; survey the vegetation growing in the location and near it; learn the soil type, amount of moisture, and pH balance
- Estimate Your Budget - Determine how much money and time the subdivision is willing to spend on the project
- Research Financing - There are a variety of financing options available to subdivisions for the creation of native landscapes
- Get Resident Input - Ask residents of the subdivision what they think about the project; host meetings, send emails, create surveys; emphasize the long-term cost savings of native landscapes
- Develop a Conceptual Plan - Include goals, a map, and plans for implementation; update the plan as residential input is received
- Sell the Plan - Promote the plan to residents, which might include presentations, meetings, and flyers which should emphasize cost savings, aesthetic values, and environmental benefits

- Implement and Monitor - Complete the project yourself or hire a contractor; take pictures to document the progress; examine the site somewhat often to ensure growth and progress

Planning & Zoning

Native Landscape Model Ordinances

Native landscaping ordinances are becoming more popular. Sometimes these ordinances simply promote the use of native species. Other times, they forbid the use of invasive species. The examples listed below give a framework to local governments who want to create a native landscape ordinance.

Wild Ones offers a variety of resources for municipalities, including a model ordinance for the promotion of native plants. Grow Native! also offers a model ordinance to encourage the use of native plants in urban landscape design.

The University of Florida Levin College of Law offers a Model Native Plant Landscape Ordinance Handbook. The Handbook offers methods and issues to consider, as well as an annotated model ordinance. Most of the information is only useful in Florida, but there is much to be learned that can apply to the St. Louis region and elsewhere.

Native Landscape Example Ordinances

Native landscapes are often excluded from the height restriction placed on residential grasses and weeds. A few examples of ordinances that discuss native plants are listed below. It is best to contact your municipality prior to establishing a native landscape on your property in order to ensure that the type of plants you are wanting to use are not forbidden. Some municipalities may also restrict the size, shape, and location of native landscapes on your property.

Chapter 220 of the Municipal Code of the City of Creve Coeur allows and promotes the use of native plants on private land. Native plants are exempt from the vegetation height restriction but must not impede the vision of motorists, bicyclists, or pedestrians and must be greater than five feet from the property line.

Section 410.450.G of the Municipal Code of the City of Weldon Spring promotes the use of native plants in all proposed conservation developments within the city.

The City of Chesterfield passed Ordinance Number 2498, which replaces certain prior ordinances and establishes criteria for native plants, noxious weeds, and invasive plants. The ordinance permits native plants to be taller than the limit of twelve inches as long as they are free of weeds, do not impair sight lines, and do not constitute a danger to the safety of the public.

Chapter 227.90 of the Minneapolis, Minnesota Code of Ordinances allows a property owner to install and maintain a managed natural landscape. Managed natural landscapes can be taller than the restricted eight inches for other grasses, may not cause a hazard to the public health, and may not be turf grass left unattended.

Chapter 30 of the Lee's Summit, Missouri Code of Ordinances allows for the use of native plants in planned

natural landscapes within the city. The planned natural landscape must be approved prior to development, and a listing of permissable plants is included in the ordinance.

Section 731-4 of the Cincinnati, Ohio Code of Ordinances allows for managed natural landscaped areas and states that they are not bound by the height restrictions listed for vegetation. Managed natural landscaped areas must be set back at least three feet from the property line and cannot encroach on any public or private property other than where they are planted.

The City of Collinsville, IL, updated its tree ordinance to promote native species and prohibit the use of invasive species.

Dollars & Cents

Cost Comparison

According to the Missouri Botanical Garden, native landscaping options cost less than the alternatives. Listed below are comparisons between the costs of turf, native prairie seedings, mulched native groundcover planting, and standard mulched planting beds. The installation costs are compared, as well as the maintenance costs. Native groundcovers cost less to maintain because they suppress weeds, establish quickly, are long-lived, and require little additional mulch once the plants are established.

Turf

- Average turf installation per acre (seed): $3,000
- Average turf installation per acre (sod): $8,000
- Annual turf maintenance per acre: $1,000
- Annual turf maintenance for homeowner: $500

Native Prairie Seeding

- Average prairie seeding per acre: $1,500
- Annual prairie maintenance per acre: $200

Mulched Native Groundcover Planting

- Average planting per 1,000 sq. ft. $2,500
- Annual maintenance per 1,000 sq. ft. $200

Standard Mulched Planting Bed

- Average planting per 1,000 sq. ft. $3,500
- Annual maintenance per 1,000 sq. ft. $400

Potential Cost Savings

If the finances of a native landscape are too daunting, there are a few potential cost saving practices that can be administered. The list below is suggested by the St. Louis County Planning Department, but depending on your situation, there may be other ways to cut costs.

- Start with a small section and expand when more money is available
- Start with fewer species; plant the grasses that grow easily first and add more diverse plants later
- Recruit volunteers to help/do the work
- Reach out to local nurseries, businesses, organizations, etc. as they may be willing to donate plants or money

Native Landscaping Rebates and Grants

The Metropolitan St. Louis Sewer District offers grants for rainscaping projects, including planting rain gardens, restoring woodlands, and replacing turf grass or invasives with native plants. The Deer Creek Watershed Alliance also offers a Rainscaping Cost-Share Program for landowners in the program focus areas.

The City of Chicago, Illinois offers a rebate of up to $60 for any homeowner who purchases native plants.

The City of Ames, Iowa offers a Native Landscape Rebate Program to Ames utility customers who implement native landscapes, worth up to $350.

The Santa Clara Valley Water District in California offers a Landscape Conversion Rebate Program that offers homeowners, property owners, business owners, and institutions maximum rebates ranging from $2,000 to $30,000 for parties willing to convert landscapes that use a lot of water to landscapes that use very little water, which usually feature native plants.

The City of Sunset Valley, Texas offers a Water Conservation Landscaping Rebate program to residents who desire to replace their lawns with native plants and is worth up to $500.

Measuring Success

Success of Your Native Landscape

Careful consideration should be given to your project before you ever plant anything. Weed control prior to seeding is crucial, as is killing any current vegetation on the site. It is also recommended to plant the seeds less than one-quarter of an inch deep. The most important thing to remember, though, is that perennial plants take time to establish. Listed below is a timeline provided by the Iowa Natural Resources Conservation Service. The tips listed, along with consideration of the timeline, will promote the highest level of success for your native landscape.

- Year One, May: Plant seed mix into bare land; be sure to kill existing plants before planting
- Year One, June: Weeds may sprout, but do not be alarmed; weeds are no cause for alarm during the first year
- Year One, July: Mow often; cutting down weeds will allow sunlight to reach the planted seedlings
- Year One, August: Native plants may be noticeable through the weeds; continue mowing to provide sunlight to more seedlings
- Year One, September: Keep mowing; mow to a 6-8" height about three or four times during the first growing season to keep weeds at bay
- Year Two: Native plants should become more dominant and apparent
- Year Three: More native plants, including other species, may become noticeable
- Year Four: Your native landscaping has matured and the plants should be developed and growing with very few to zero weeds apparent

Oregon Home Magazine offers 14 tips for native landscaping that were acquired from landscape architects and native garden designers. Some of the tips include:

- Don't waste water.
- Depave your driveway.
- Research how big plants will be when full-grown.
- Don't fall in love with a plant you can't use.

Debbie Roberts, a landscape designer, garden coach, and Accredited Organic Land Care Professional offers six tips for designing with native plants. Her tips are intended to help homeowners incorporate native plants into their gardens while adding to the overall beauty of the garden.

1. Structure - Provide structure with broadleaf greens and conifers to handle the winter months
2. Select - Carefully choose which plants you put in your garden based on the intended use of your garden
3. Simple - Keep the plant selections simple and cluster plants of the same species in groups of three or more
4. Sequencing - When designing your garden, learn how plants can work with other species to create interest and depth
5. Sweeps and swathes - Use sweep and swathe design patterns to create a sense of abundance and continuity
6. Shrink - Turf might be a desired feature of your yard, but shrink the grass to maximize the properties and benefits of native plants

Success of Native Landscaping

Success of a native landscaping initiative can be measured in the amount of homeowners, businesses, and

organizations who use native plants in their landscapes. Sometimes a simple survey can be created and distributed asking who uses native plants if a solid number is desired. In order for native landscaping to be salient to homeowners, businesses, and organizations, advocacy and advertisement are great solutions. If people are aware of the benefits of native plant species in their yards, they are much more likely to use them. A potential reason why more people do not use native plant species could be because they do not know about them. If information distribution is increased, availability of native plant species is increased, and advocacy promoting the use of these native plants is increased, the distribution and usage of native plants will be increased.

Discover More

Shaw Nature Reserve

The Shaw Nature Reserve, an attraction of the Missouri Botanical Garden, offers informational resources about native landscaping for both home gardeners and professionals.

Wild Ones – St. Louis Chapter

The St. Louis Chapter of Wild Ones is an organization of individuals, households, businesses, students, and educators who are committed to the promotion of native landscaping practices in the St. Louis region. Wild Ones is a national organization with chapters throughout the United States.

Grow Native

Grow Native! is a native plant marketing and education program of the Missouri Prairie Foundation. By increasing conservation awareness and the use of native plants in all kinds of developed landscapes, Grow Native! helps protect and restore biodiversity in the region. Grow Native! aims to increase the demand and use of native plants in the Lower Midwest region by collaborating with government agencies, non-profit organizations, private industries, and consumers.

Missouri Master Naturalist

There are three local Missouri Master Naturalist chapters in the region. The Confluence Chapter in St. Charles County, the Miramiguoa Chapter in Franklin County, and the Great Rivers Chapter in St. Louis City and County. Sponsored by the Missouri Department of Conservation and the University of Missouri Extension, the Missouri Master Naturalist program is a community-based natural resource education and volunteer service

program.

Missouri Department of Conservation

For subdivision and common ground assistance, Jen Porcelli, a Private Land Conservationist, can be contacted. Her email address is Jennifer.Porcelli@mdc.mo.gov and her phone number is (636) 300-1953 x4162.

For municipal and community assistance, Angie Webber, a Community Conservation Planner, can be contacted. Her email address is Angie.Webber@mdc.mo.gov and her phone number is (314) 301-1506 x4213.

Additional Resources

The Bring Conservation Home Program of the St. Louis Audubon Society provides assistance to small, private landowners in the St. Louis region for the restoration of native plant and animal habitat on their grounds. The Program offers advice on water conservation, removal of invasive plant species, and landscaping with native species.

Brightside St. Louis's Neighbors Naturescaping is a program designed to help St. Louis City neighborhoods improve their public spaces. Workshops are offered in the summer and selected projects will receive plants, tools, and hardscape for their projects.

Case Studies

Bring Conservation Home

Contact

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Address

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Description

Bring Conservation Home was developed to address the need for habitat restoration on urban lands in the St. Louis region. For a small fee, a landowner receives an on-site landscape survey from a team of trained Habitat Advisors who provide detailed, written recommendations on how to improve the landscape for the benefit of

native plants, animals and people. The site visit report covers the removal of invasive plants, the installation of a native plant landscape, storm water conservation practices and other wildlife stewardship ideas. When the owner achieves a certain level of conservation on their land, they earn one of three levels of certification and the opportunity to recognize that accomplishment with a yard sign bearing the program logo.

The program is managed by a single, nearly full time program coordinator with workshop training provided by a consultant. The program coordinator is responsible for primary landowner contact, report production, marketing, partnership development, fundraising and Habitat Advisor coordination. At present, 45 volunteer Habitat Advisors have been trained with about 20 of those “active” at any time conducting landscape surveys and providing detailed recommendations for the survey reports.

Cost $0

Lessons Learned

All site visits include a description of the “why” of native landscaping that includes a description of the impact our non-native invasive and ornamental landscapes have had on our native birds and butterflies. Initially a trial approach, it became a core element of the visit after receiving near universal positive response and appreciation for the new understanding from the homeowners. One owner was so taken he solicited a local real estate agent for a yard box to display program brochures for passersby, right in front of his native butterfly garden. Another proud gardener with a beautiful, traditional landscape was initially deflated by hearing so many of her plants were non-native. Yet, after learning about the Monarch butterfly’s special bond with milkweed and the hummingbird’s need for tiny insects to feed their young, she told the advisors how happy she was to have a new “purpose” for her gardening.

Grow Native!

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Description

Grow Native! is a native plant marketing and education program. The program promotes the use of natives for use in landscaping and also for use in agriculture, as forage for livestock and to attract pollinators to insect-pollinated food crops, and for use in stormwater management. Grow Native! began in 2002 as a program of the Missouri Department of Conservation and then later in collaboration with the Missouri Department of Agriculture. In the fall of 2010, the Missouri Department of Conservation approached the Missouri Prairie Foundation (MPF) about taking on the program, and in July 2012, the program was transferred to MPF. Since that time, the program has been administered by MPF and its operations are overseen by a Grow Native!

committee of MPF board members, its executive director, and native plant professionals (nursery owners, landscaping architects, retailers, and others).

Activities of Grow Native! include native landscaping workshops in the Grow Native! service area (the lower Midwest--southern Illinois, Missouri, eastern Kansas, and northern Arkansas), the production and distribution of a Buyer's Guide to native landscaping services and products; upkeep of a comprehensive native plant website with a searchable native plant database, on-line buyer's guide, sample landscape designs, and more; an annual Grow Native! Professional Member meeting; and presentations and outreach to various groups across the state.

Cost $0

Lessons Learned

As MPF has been the home of Grow Native! for just one year, I'm not sure we can comprehensively answer this question. However, I would say that having the program's operations overseen by native plant professionals is a great benefit to the program. Another lesson learned is that it is important to have both in-depth native plant information for people who are experienced working with natives, but also basic, very straightforward information (suggested plant lists, clear web-based information, etc.) for those who are new to using native plants.

Native Commons Project

Contact

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Description

Interest in native landscaping for subdivision common ground stems from a growing issue for subdivision associations around St. Louis County – the cost for maintaining manicured turf in common ground is typically the largest expense for associations and is a significant strain on strapped association budgets. Taking a strategy from the St. Louis County Parks Department, who uses prairie planting to help reduce maintenance costs at various parks, planners set out to create a model that associations could use for the same benefit.

Beyond the cost savings that could be achieved by subdivision associations, planners also wanted to promote the obvious ecological benefits that could come from converting manicured turf to prairie. With over 11,000 acres of common ground throughout St. Louis County, such an effort could have long-lasting benefits to the county’s ecosystem by enhancing biodiversity and creating a healthier environment by reducing the use of pesticides and improving water quality.

The result was the Native Landscaping Guide, published by the Department of Planning in February 2011. The guidebook is intended to help subdivision associations and interested residents understand what native landscaping is and how it can be used in common ground areas to help reduce maintenance costs, create

vibrant, healthier ecosystems, and make subdivisions more sustainable. The guide outlines a step?by?step process to follow in creating and implementing a native landscape plan, including: how to solicit volunteers, evaluate the suitability of the site, establish a budget, and ultimately select a contractor and implement the plan.

PILOT PROJECT

Although there has been significant interest from subdivisions in the concept of native landscaping for common ground, to-date no projects have been started using the guidebook. In an effort to increase awareness of the guidebook and demonstrate the feasibility of taking on such a project, Planning staff is developing a pilot project where staff work with a subdivision to convert some of its common ground turf to native prairie.

Successful completion of a pilot project will do several things. It will increase awareness in the community of native landscaping as an alternative to traditional turf, and will hopefully spur additional projects. It will also bring together groups like St. Louis County, Missouri Department of Conservation, and native landscaping advocates in a lasting partnership that will build capacity for future projects. Lessons learned from the pilot project will also go a long way in understanding how to best match subdivision associations with resources to continue to advance the practice of converting common ground turf to native prairie.

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Cost

We'd anticipated spending approximately $10,000 over two fiscal years from an MDC grant program. We terminated the demonstration project prior to spending any of the funds, so we were only out our staff time.

Lessons Learned

Key lessons learned centered on requirements for subdivisions interested in submitting for the project, including attendance at a workshop and conducting interviews during the selection process (rather than solely relying on submission materials; having a formal MOU between MCD, Planning and the subdivision; having

Planning take a more active role in the selection process for contractors, rather than relying on the trustees; insist on greater specificity and professionalism of contractor submissions.

There were three trustees who represented the subdivision that the County chose for the pilot program. Unfortunately, one of them did not understand that the Missouri Department of Conservation grant was very specific and applied only to planting native species. The other two trustees were newly elected and had worked as trustees for less than 6 months, so there were problems with communication and a lack of understanding about the project.

Before the pilot program was cancelled, the County had already begun accepting bids from contractors for the project. The project was to cover 3 acres and include a stream and removal of invasive plant species. The Missouri Department of Conservation gave a $10,000 grant for the project to get started, but after that, if the pilot were successful, the County would have applied for more grant money.

Despite the focus of the program being on subdivisions, the County did hold 2 or 3 public meetings for home owners to learn about the benefits of native plants and native landscaping on private land as part of the Native Commons Project.

Native Landscape Solutions, Inc

Contact

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Description

Native Landscape Solutions, Inc. is involved in many projects around St. Louis. They are working with the Metropolitan Sewer District to create stormwater basins with native plants, bio retention zones and a wetland.

Do native landscaping using plants ranging from prarie to short grasses. They also do conversions from non-native plants and trees in an area to native ones.

They also participate in the fomal uses of native plants. They bring native plants into home landscaping. They also encourage installing bioswales, rain gardens and avoiding pesticides.

Cost

Generally, native seeding cost more than turf grass. However, after three years the cost for long term maintenance is much lower. You need to keep the weeds under control.

Lessons Learned

Everyone is committed at first, but due to the time factor there is pressure during the first two years due to nothing happening when the garden is planted from seed. This means there needs to be more education for people. They need to know to wait three years. When they know this, they tend to be happy. It also needs to be explained that it is a weedy landscape rather than trimmed. There are always people who do not like the look. People are interested in how the gadens attract wildlife. It brings in a new audience interested in ecology. People are interested in water use. The gardens save water and don't need pesticides.

Wild Ones

Contact

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Description

We are mainly involved with educating the public and our members in the use of native plants in landscaping. We meet once a month except Dec. and Jan. Feb., Mar., and Nov. are indoors, the rest are at native gardens, either at a public space or someone's home. The November meeting is a potluck and seed exchange.

We cosponsor a Homeowner's Workshop, an all-day Saturday affair in Feb or March. There have been no costs to us in the past but may be in the future since we will be bringing in an outside speaker.

New members get a free yard consult by experienced members. We also partner with St. Louis Audubon's yard consult program which is more extensive and includes an evaluation which may lead to a designation for a silver, gold, or platinum rating.

We participate in the native plant sale at Shaw Nature Reserve (SNR). This is both a fundraiser and an opportunity to educate.

We cosponsor a landscape challenge contest with SNR and Grow Native. The winner gets a free front yard makeover. Wild Ones input is in organization and labor, usually no monetary input.

We've been helping with honeysuckle removal in Forest Part on a Sat. in Nov.

Cost

Many things involve volunteer labor, but no cost monetarily.

MDC seedlings for awards at our Earth Day booth run about $400

School grants are usually in the neighborhood of $500. We average about 2 a year

Indoor meetings usually involve a rental fee and may include a speaker fee.

Lessons Learned

Our membership had grown from high 60s to 100 over the past 4 years. Interest in native plants is increasing in the area.

Giving seedlings away at Earth Day helps draw people into our booth.

We do most of the business of the group in board meetings, thus avoiding long and boring general meetings.

We are beginning to doubt the sustainability of school gardens and will probably do a tour of past grant sites

to see how those gardens are doing. I am not optimistic,